



SQUID GAME

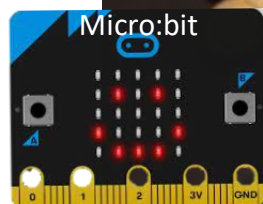
Micro:bit - Squid Game


6 player game where players are eliminated in turn by an electric shock, the winner is the 'last person standing'!!

MOSFET on/off switch for high voltage supply

Custom PWM servo-switch sends high voltage to each leg

Fusion3D CAD Laser-cut and 3D printed enclosure

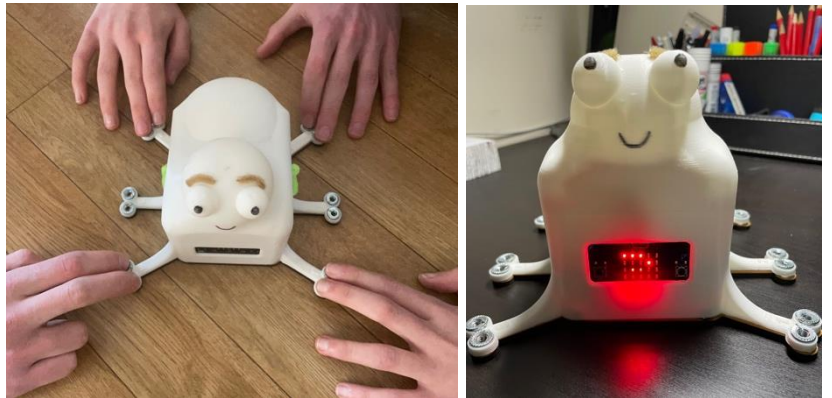


THANK YOU  **LEONARDO** for the work-experience and Micro:bit!

Micro:bit Project - Squid Game

I created a fun game using the Micro:bit. You can play with up to 6 players and the winner is the 'last man standing'.

Similar to 'Russian Roulette', on each round, one person goes out with a small electric shock through their fingers.



The Build:

First was the code. I wrote this in 'micro python', using Visual Studio Code. It checks for a button press to initiate the timer before sending power to a random player selected, using a PWM controlled servo.

```
from random import randint
from time import sleep
from microbit import *

# Servo motor
servo = Servo(2)

# LED display
leds = LEDMatrix()

# Button
button = Button('A')

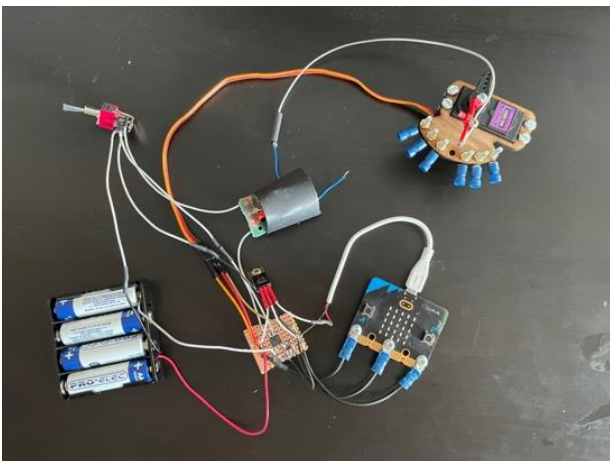
# Variables
player = 0
time = 0

def setup():
    servo.write_pulse_width(1.5)
    leds.fill(0)
    button.reset()

def loop():
    while True:
        if button.is_pressed():
            # Start timer
            time = 0
            # Select random player
            player = randint(1, 5)
            # Turn servo to player
            servo.write_pulse_width(1.5 + 0.05 * (player - 1))
            # Show player number
            leds.show(player)
            # Wait for timer
            while time < 5:
                time += 1
            # Turn servo back to 1.5
            servo.write_pulse_width(1.5)
            # Show 0
            leds.fill(0)
            # Wait for button
            while not button.is_pressed():
                pass
            # Start timer
            time = 0
            # Select random player
            player = randint(1, 5)
            # Turn servo to player
            servo.write_pulse_width(1.5 + 0.05 * (player - 1))
            # Show player number
            leds.show(player)
            # Wait for timer
            while time < 5:
                time += 1
            # Turn servo back to 1.5
            servo.write_pulse_width(1.5)
            # Show 0
            leds.fill(0)
            # Wait for button
            while not button.is_pressed():
                pass
```

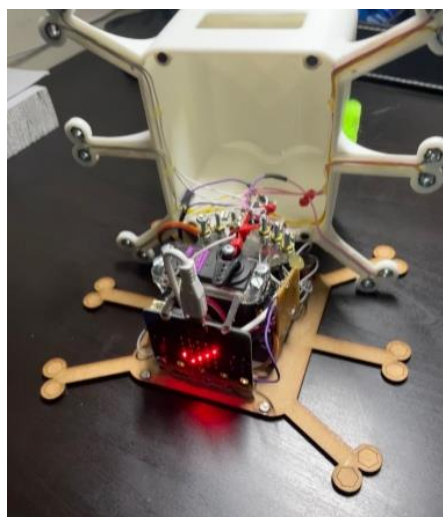
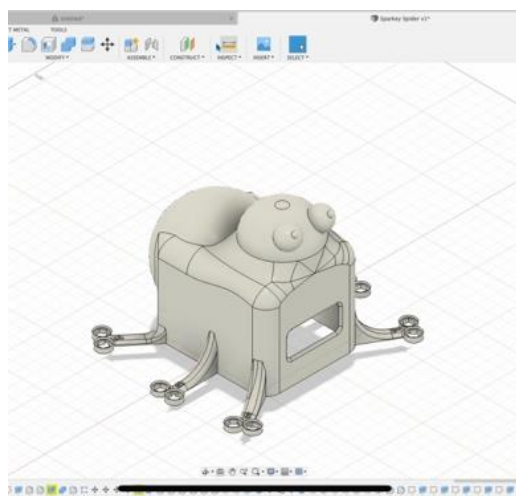
Next was the electronics. The main components include:

- Micro:bit
- Servo – This mechanically switches the high voltage to the player selected
- High voltage converter – from 6v to ~2000v
- Home-made circuit board – handles turning on the high voltage converter
- 5v regulator



Then the CAD. I modelled the case in 'Fusion 360', so then I could 3D print it.

I also laser cut the base and the mount for the servo.



Finally, the assembly. It was quite a tight fit squeezing everything in such a small container.